

REMARKS

Claims 1-56 are rejected under 30 above USC §103(a) from *Chenchin et al* U.S. Patent No. 6,007,863, *Wu et al* U.S. Patent No. 5,468,508 or *Houghtaling* U.S. Patent No. 3,227,562 in view of the Nelson et al publication and Moore European Patent Publication No. 288,103.

The claim amendments include canceling certain claims and modifying certain other claims from independent claims to dependent claims. A total of 47 claims remain, 8 of them being independent.

Each claim includes a recitation of one or more specific cultivars, with claims being canceled which do not contain such a recitation. These cancellations are made without prejudice to include this subject matter in subsequent filings.

In addition, each claim specifies that harvesting of these early season cultivars was very early in the harvesting season for orange fruit, namely no later than the harvesting season of Hamlin orange fruit in the particular growing territory.

Each claim also has a recitation regarding the Color Number of the juice or fruit. In each case, the standard is a particular minimum Color Number units value and/or a Color Number which is in excess of Hamlin harvested at the time the claimed early season cultivars are harvested.

Many of the claims also specifically recite that the orange juice product exhibits sensory qualities substantially

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equivalent to, or at least as beneficial as, the sensory qualities of Hamlin orange juice.

The Office Action observes that blending of juices from different seasons is shown in the art. Applicants have acknowledged this in the application. For many years, the standard early season orange cultivars, primarily Hamlin, have been harvested for use in not from concentrate orange juice. The industry accepted preferred source (namely Valencia orange juice) is harvested much later in the growing season. In order to have these early-in-the-season not from concentrate orange juice products be closer to Valencia juice, stored Valencia juice has been blended with freshly extracted Hamlin juice for not from concentrate orange juices that are prepared early in the fresh juice orange season. Applicants improve the options for early season juices blended with or to replace the early season standard juice, Hamlin juice. None of the references teach or suggest early season orange juice blends which improve upon the current early season juice standard, namely Hamlin juice.

The Office states it would have been obvious to choose a particular cultivar as a standard (i.e. the Hamlin orange). However, applicants do not lay claim to having chosen Hamlin as the standard. Many years of industry practice has made Hamlin the standard. Applicants specify the Hamlin orange in the claims in order to provide an objective standard by which to define

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their invention. This is a standard which is definite and is well recognized in the not from concentrate juice industry.

The Office Action also suggests that the claimed invention is merely the discovery of an optimum value of a "result effective variable" as noted in decisions such as *In re Bousch*, 617 F.2d 272, 205 U.S.P.Q. 215 (CCPA 1980). The Office apparently assumes that the claimed cultivars are oranges known for early season particular color and flavor attributes. However, such is not in the art. It was applicants who determined and who presently disclose the color improvement attributes of the claimed early season cultivar methods and products, as well as the fact that the improved color attributes are in combination with other advantageous properties. As noted in the accompanying Declaration of Thomas Taggart, these color enhancements are combined with chemical attribute enhancements and good sensory qualities.

The concept of "result effective variables" which are "merely optimized" is not applicable to applicants' invention. In *Bousch*, prior art disclosed metal alloys which overlapped with the claimed compositions. The prior art taught that it was known that the higher the Nv value, the greater the chance for an undesirable result. In addition, the prior art in *Bousch* suggested the kind of experimentation needed to achieve the claimed composition. This concept is not applicable here, where applicants claim blends which are unique per se and had not been

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known heretofore. This is not a situation where known components having known properties are put together in a manner taught by the prior art. It had not been known that blending of certain early season non-Hamlin cultivars with other orange juices would achieve the commercially advantageous combination of good color, good sensory properties, and good chemical properties.

Bousch recognizes that, even if variable optimization is known to be "result effective", an assertion of *prima facie* obviousness is rebutted where the results are unexpectedly good. As is evident from the accompanying Declaration of Thomas Taggart, the presently claimed invention achieves results which are unexpectedly good.

With further reference to *Bousch*, applicants note that this decision cites *In re Antonie*, 559 F.2d 618, 195 U.S.P.Q. 6 (CCPA 1977). *Antonie* reversed a finding of obviousness, noting that an obviousness determination requires looking first at the invention as a whole. At issue was a certain design parameter (a ratio value). *Antonie* indicated that this ratio value cannot be looked at alone, but must be looked at together with the properties of the subject matter which are inherent in the subject matter and disclosed by applicant. The CCPA analogized this situation to the requirement to look at a chemical and its properties in order to assess the patentability of the chemical. In *Antonie*, the device was unobvious because it was not possible to recognize from the prior art that capacity is a function of

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ratio; the prior art was not trying to maximize or control capacity. According to *Antonie*, obviousness is not determined by looking if it would have been obvious to try varying every parameter in order to optimize. Without a specific teaching, one cannot read into the prior art or conclude from the prior art that the ratio claimed in *Antonie* is the inevitable result of the prior art.

Applying *Antonie* to the present situation, one must begin by looking at the invention as a whole. This includes blends of particular early season cultivars. The unique combined properties of good color and sensory attributes (and good chemical attributes) are not the inevitable result of using an early season cultivar. As is evident from the data in applicants' disclosure and in the accompany Declaration of Thomas Taggart, these improved combined properties are not achieved by the long-running standard in the very industry of applicants' invention, namely the Hamlin cultivar, which is also an early season cultivar. This shows that the presently claimed invention is unobvious. To the extent that this subject matter might be argued to involve parameter optimization or a result effective variable (which applicants dispute), the prior art did not recognize that any such parameter optimization is a "result effective variable."

Turning now to the art cited in the present Office Action, it is generally observed that the primary references are believed

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by applicants to be less relevant than the secondary references and/or the state of the art which is noted in applicants' description.

Chenchin discloses and teaches a process for treating, storing and preserving freshly cut pineapple. Citrus fruits are not discussed. The Office Action refers to the abstract and lines 6-17 of col. 2. Although the passage in col. 2, for example, suggests juices to be used as the medium for cut fruit (pineapple) which are juice combinations, there is no teaching or suggesting of applicants' claimed invention. Applicants understand the following to be the closest disclosure in *Chenchin* which is within this col. 2 passage:

... freshly cut fruit is immersed in juice which will balance its Brix/acid ratio to a preselected range; and in preferred embodiments, the selected juice is from a previously treated and stored juice from the same type of fruit, from a different time of the year. Most broadly, the juice can be a liquid medium other than juice of the same fruit: juice from different fruit or blend of different fruits, sweet or tart syrups or other liquid media selected to balance the Brix/acid ratio of the freshly cut fruit as desired.

There is no suggestion of using juice expressed from different cultivars of the same fruit type, much less of the round orange fruit type, in order to provide a juice product. As noted previously, applicants continue to acknowledge that even in the round orange industry, it is known to blend juices from different cultivars. The typical blend is the addition of stored (but still not from concentrate) later season orange juice

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(typically Valencia round orange juice) into the freshly expressed juice which is available during the early season (typically Hamlin juice).

The Office Action makes reference to "col. 35-45" of Wu. Applicants believe that the Office intended to refer to lines 35-45 of col. 9. If this is not correct, then clarification is respectfully requested. That passage in col. 9 is within Example 1 of Wu. That example clearly references Valencia oranges, no orange blends being described. The Office states that this passage refers to achieving "a particular color and flavor." This Example 1 goes on to report upon the evaluation of certain sensory attributes of the gasified/preserved orange juice according to Wu versus "Non-Gasified" Juices (apparently also Valencia orange juice). Applicants readily acknowledge that the means for measurement of color values, flavor, sweet/sour balance and the like are known in the citrus fruit industry. This is really all that Wu teaches.

This Wu patent does not teach blending different orange cultivars in order to achieve good sensory attributes. The Wu data merely report how the gasified and preserved juices of that patent compare with juices which were not thus gasified and preserved. Applicants respectively do not understand how Wu discloses blending "various fruit juices together to achieve a particular color and flavor," especially if one is referring to achieving a particular color and flavor for orange juice per se.

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While applicants do not read Wu to teach that other juice blends of Wu are done to achieve a particular color, it is acknowledged that the blends of, for example, Example 2 and Example 4 would modify flavor. But the disclosure of Wu regarding modifying flavor is by combining different types of fruits, namely orange and pineapple, mango and orange, grapefruit and orange, and grapefruit and pineapple. Nothing is suggested about orange color enhancement or orange flavor enhancement by adding particular early season orange cultivars.

Houghtaling, as the Office states, discloses that it is known that citrus fruit concentrate can be made up of several species of citrus fruit to achieve a BAR of 11. This reference does not suggest different cultivars of the same species (round orange). In applicants' view, this reference has little relevance to the claimed invention.

Turning now to the secondary references, the Nelson publication is generally consistent with the state of the art as it is acknowledged in applicants' description. This recognizes differences in harvest seasons for different varieties of round orange fruit. It is noted that pages 40 and 42 (41 having been omitted from the copy provided by the Office) indicate that Hamlin is a typical early season orange which matures between October and December. This also notes that Valencia are late season round oranges, typically harvested between March and July. This seems to be generally consistent with applicants'

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understanding. Since applicants were not provided with a full copy of this reference, it is understood that the Office considers the pages chosen by the Office to be the most relevant to the claimed invention. If other relevant pages were to be supplied by the Office, applicants welcome the opportunity to respond regarding this subject matter.

Applicants do have some specific observations concerning page 64 of Nelson which was provided by the Office. The first full paragraph on page 64 merely references the industry practice of using an "addback" concentrate for use in the manufacture of orange juice concentrate products. This recognizes a general approach of blending a high color and low acidity concentrate into a juice which is collected early in the season and which would have a lower color and a higher acidity. This disclosure still appears to be less relevant than the state of the art which is acknowledged in applicants' disclosure. That state of the art includes the practice of blending stored Valencia juice with freshly expressed Hamlin juice which is harvested early in the round orange harvest season. This is included in the state of the art for not from concentrate orange juices.

The Moore abstract, like Nelson, appears by applicants to be more relevant to the claimed invention than are the three primary references. However, the Moore disclosure is not specific as to orange cultivars used, and no disclosure is given

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as to possible improved chemical attributes or sensory attributes.

Even if it were to have been obvious to combine the primary and secondary references in the manner suggested by the Office or in any other manner, the claimed invention would not have been obviously arrived at. None of the references have any disclosure regarding the early season cultivars which are recited in applicants' claims. The combination of cited references does not teach or suggest harvesting such cultivars no later than the harvesting season of Hamlin orange fruit within the particular growing territory. The combination of references does not teach or suggest extracting and collecting orange juice having a Color Number greater than Hamlin harvested at that time and/or having a Color Number of at least 33 CN units. The combination of references does not suggest or teach blending this extracted early season orange juice with another orange juice source to achieve the combined virtues of Color Number in excess of 33 CN units while also exhibiting sensory qualities substantially equivalent to, or at least as beneficial as, the sensory qualities of Hamlin orange juice. In short, the combination of references does not teach, suggest or obviously lead one of ordinary skill in the art to the method steps, the orange juice product by process, or the orange juice blend composition which are claimed by applicants. Reconsideration and withdrawal of the §103 rejection for this reason are respectfully requested.

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In the event that the Office continues with its position that the claimed combination of references renders the claimed invention *prima facie* obvious, applicants submit the enclosed Declaration of Thomas Taggart.

The Taggart Declaration provides comparative data which compares applicants' invention with what applicants acknowledge and respectfully believe to be prior art closer than that of the combined references (or alternatively is consistent with the combination of references presented in the Office Action). Applicants respectfully observe and believe that comparative tests based on any or all of the primary references, even if somehow appropriately modified by the secondary references of the Office Action, would have been less meaningful than the data presented in the Taggart Declaration.

As the Taggart Declaration details, in arriving at their invention, applicants first concluded there exists a negative aspect of orange juice products that incorporate substantial quantities of early season harvested juices, principally Hamlin juices. This negative aspect is the low Color Number associated with early season orange juice products. Applicants then embarked on a project to enhance color over Hamlin orange juice, at the same time hoping to avoid detrimentally affecting the chemical properties and the sensory properties of juices which were sought to be enhanced in color. Applicants were gratified to learn through their work that the claimed invention also

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brings about an unexpected and serendipitous combination of enhanced color, improved Brix and BAR chemical attributes, and sensory qualities which not only are at least as beneficial as Hamlin-including embodiments, but which are also better in sensory qualities. Clearly, the results are unexpectedly good. These are not mere "result effective variables." Even if they were, applicants have fully satisfied the criteria of *Bousch* and/or *Antonie*, in the event that decisional law along these lines were to be controlling in the present situation.

Reconsideration and withdrawal of the §103 rejection for these alternative reasons are respectfully requested in light of the showing provided by the Declaration of Thomas Taggart.

The references listed on the attached form PTO/SB/08A are called to the attention of the U.S. Patent and Trademark Office. Applicants enclose a copy of each of these references. In addition, applicants enclose an English translation of the Pao et al reference entitled "Study of Some Characteristics of Fruit and Seeds of Various Kinds of Sweet Orange, *Citrus sinensis* (L.) Osbeck." In addition, applicants enclose the fee of \$240.00 for submission of an Information Disclosure Statement in accordance with §1.97(c). The Office is authorized to charge any additional fee or to credit any refund to deposit account No. 50-1039.

This statement is provided in order to comply with 37 CFR §1.56, §1.97 and §1.98, and this statement is not to be construed as a representation that no information exists which is more

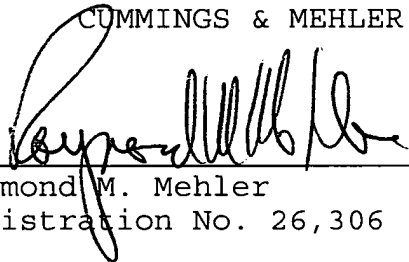
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material than these references, or that the information is considered material to patentability.

Applicants have made an earnest endeavor to place this application into condition for allowance, and favorable consideration is respectfully requested.

Respectfully submitted,

COOK, ALEX, MCFARRON, MANZO,
CUMMINGS & MEHLER, LTD.

A handwritten signature in dark ink, appearing to read 'Raymond M. Mehler', is written over a horizontal line. The signature is stylized with a large initial 'R' and a long, sweeping underline.

Raymond M. Mehler
Registration No. 26,306

200 West Adams Street
Suite 2850
Chicago, Illinois 60606
(312) 236-8500

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